

REMARKS/ARGUMENTS

This case has been carefully reviewed and analyzed in view of the Office Action dated 14 September 2006. Responsive to the Office Action, Claims 2-4, 7, 9-11, 14, 16, and 18-20 have been cancelled by this Amendment. Claims 1, 5, 8, 12-13, and 15 have been amended for clarification thereof. Claims 1, 5, 8, 12-13, 15, and 17 remain pending in the subject Patent Application.

In the Office Action, the Examiner rejected Claims 1, 3, 6-8, 10, 13, and 14 under 35 U.S.C. § 102(b) as being anticipated by Rohne, U.S. Patent #6,658,773, hereinafter Rohne. The Examiner rejected Claims 15, 17, and 18 under 35 U.S.C. § 102(b) as being anticipated by Katrinecz, U.S. Patent #6,773,128, hereinafter Katrinecz. The Examiner also rejected Claims 2 and 9 under 35 U.S.C. § 103(a) as being unpatentable over Rohne. Lastly, the Examiner rejected Claims 4, 5, 11, 12, and 16 under 35 U.S.C. § 103(a) as being unpatentable over Rohne and Katrinecz in view of Sasaki, U.S. Patent # 6,917,005, hereinafter Sasaki.

Before discussing the references relied upon by the Examiner, it is believed beneficial to initially and briefly review some of the features of the subject invention as more clearly defined by the newly amended claims. The subject Patent Application is directed to an illuminated human-machine interface device. The interface device is a keyboard and has a plurality of key caps having a layer of fluorescent ink thereon. Each key cap has a symbol formed through negative plate printing of the fluorescent ink directly thereon. The fluorescent ink emits light responsive to

impingement of light from a computer monitor. In several embodiments, at least a portion of the keyboard is made of fluorescent material, and also emits light responsive to impingement of light from a computer monitor.

In providing a negative plate printed symbol formed of fluorescent ink directly on the key caps, among the benefits derived are: enhanced operability in darkness, preservation of tactile indicators on keys, user ergonomics, and durability. In this manner the user's productivity is increased as one is able to see the keys in light or dark environments and receive tactile indicators through the printed symbols for touch typing purposes. Further, the keyboard data entry rate is not negatively impacted by label stickers covering every key and extending four layers above the key caps.

In contradistinction, the Rohne reference is directed to an adhesive label with luminescence inside. The Rohne device has a uniform layer of luminescent material with an opaque ink character printed thereon sandwiched among 3 layers of plastic vinyl and is intended to be adhered to the key caps of a keyboard. A kit of fluorescent labels with adhesive backing is provided to allow each label to be affixed to its respective key cap on the keyboard.

However, Rohne does not disclose the benefits from directly negatively plate printing the fluorescent ink on to the key caps of the keyboard. It is respectfully submitted that the Rohne reference does not provide for: "... a layer of fluorescent ink thereon, the fluorescent ink forming symbols by *negative plate printing on the key caps*, the key caps being illuminated by emission of light from

the fluorescent ink responsive to impingement thereon by a light emission from a computer monitor...” (emphasis added), as defined by newly amended independent Claims 1 and 8.

In opposition, the Rohne reference discloses a device which does not provide preserved tactile indicia, ergonomics, or the durability that the subject Patent Application teaches. Rohne teaches a label system having four layers extending beyond the key cap of the keyboard device. This design will obscure tactile indicia on the keyboard and thus severely detriment touch-typing and the speed and accuracy of data entry.

Further, the Rohne device with exposed peripheral edges of adhesive layers will accumulate dirt and other particles which will negatively affect the durability of the keyboard. Still further, the four layers of deformable vinyl plastic added to each key will change the ergonomics of the device and result in an altered key-travel experienced by a user, further detracting from its usability.

Thus, the Rohne device is not configured for, nor intended for the preservation of tactile indicia, ergonomics, and durability as afforded by directly printing the fluorescent ink using negative plate printing to form symbols on the keys themselves as is necessary for newly amended independent Claims 1 and 8.

Also of great importance to the subject invention is the use of a computer monitor as an ambient light source, the light therefrom impinging upon the fluorescent ink to continuously stimulate emissions from the fluorescent ink. By using a computer monitor as a light source for the fluorescent ink, the keyboard can be used in the dark for an

unlimited amount of time as it is constantly being stimulated. This stimulation is accomplished without the requirement for additional equipment, as required by Rohne.

In contradistinction, the Rohne device has a layer of luminescent material which cannot continuously radiate visible light, and instead must be recharged every 20 hours. “The labeled key must be exposed to light for at least 10 minutes before being readable in the dark.” (Col. 4, Lines 52-54). Thus, the Rohne device does not disclose “...emission of light from the fluorescent ink *responsive to impingement thereon by a light emission from a computer monitor...*” (emphasis added), as is necessary to newly amended independent Claims 1 and 8.

Therefore, as Rohne does not disclose each and every element of the subject Patent Application, as now claimed, it cannot anticipate the subject invention. Further as Rohne fails to suggest such a combination of elements, and in fact teaches away from this combination, it cannot make the instant invention obvious either.

The remaining references, Katrinecz and Sasaki, do not overcome the deficiencies of Rohne. As none of the cited references taken alone, or in combination disclose or suggest the unique combination of elements recited by Claims 1 or 8, they cannot make obvious the invention of subject Patent Application, as now claimed.

The Examiner rejected Claim 15 as being anticipated by Katrinecz in that Katrinecz discloses a keyboard upper cover with holes having phosphorescent material mixed therein that glows residually during and after illumination. However, as the Examiner states, Katrinecz uses *phosphorescent* material mixed therein (Column 2, Lines

8-12) and not *fluorescent* material as in the subject Application. Further, it is believed that Katrinecz discloses that “[t]he keys... contain phosphorescent material...,” (Column 2, Lines 8-12) and not the fluorescent plate as is necessary to independent Claim 15 of the subject Application.

Also of importance, the Katrinecz device requires the use of a luminescent device implanted within the keyboard to provide lighting. No where does Katrinecz disclose fluorescent ink, let alone, fluorescent ink symbols coated on a fluorescent plate being illuminated responsive to impingement from a computer monitor. Thus, Katrinecz lacks “...fluorescent ink is coated on said fluorescent plate, so that said fluorescent ink is illuminated by emission of light from said fluorescent ink responsive to impingement thereon by a light emission from a computer monitor...” (emphasis added) as is necessary to newly amended independent Claim 15. Therefore, as Katrinecz does not disclose every element of the subject Patent Application, it may not act to anticipate the subject Application.

It is therefore now believed that the subject Patent Application has been placed in condition for allowance, and such action is respectfully requested.

If there are any fees necessary in this filing, the Director of Patents and Trademarks is hereby authorized to charge deposit account # 18-2011 for such additional charges.

Respectfully submitted,
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